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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/990,598	11/20/2001	Yong F. Zhang	ZHA-101	3871
7590	08/14/2007		EXAMINER	
Yong Zhang 2815-143rd Place, SE Mill Creek, WA 98012			HARVEY, MINSUN OH	
		ART UNIT	PAPER NUMBER	
		2828		
		MAIL DATE	DELIVERY MODE	
		08/14/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	09/990,598	ZHANG ET AL.
Examiner	Art Unit	
Leon Scott, Jr.	2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on ____.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-43 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-43 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) Notice of References Cited (PTO-892) Primary Examiner _____ Interview Summary (PTO-413) Paper No(s). _____.
2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)
3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 6) Other: _____



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The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In lines 18 and 19 of claim 1 it is not clear how the flexible seal accommodates adjustment of the cap without comprising integrity of the seal; claim 1 is indefinite and incomplete. In line 2 of claim 12, it is not clear what constitutes being *sufficiently low*, claim 12 is indefinite. Further in line 2 of claim 12, what constitutes a *leaving threshold*, claim 12 is indefinite and incomplete. In line 2 of claim 14, it is not clear what constitutes being *sufficiently less than*, claim 14 is indefinite.

In claims 30 and 31 it is not clear within the context of claim language what the working component is in each of the claimed gases; claims 30 and 31 are indefinite and incomplete. In line 2 of claims 18,32 and 38, in claim 35 and in line 3 of claim 36 the recitation made of is a method limitation, thus it is not clear what applicant is relying upon to carry the claim method or apparatus; claims 18,32,35,36 and 38 are indefinite. In line 3 of claim 18 *bring* should read *being*. In line 7 if claim 37 if the discharge occurs between the electrodes then it is not clear how the electrodes divide the interior of the enclosure into two portions opposite to each other; claim 37 is indefinite and incomplete. In line 7 of claim

42 the recitation can is indefinite. Further in claims 42 amend 43 applicant recites both method steps and apparatus, thus it is not clear what applicant is relying upon to carry the claim the method or apparatus; claims 42 and 43 are indefinite and incomplete. The preamble of claim 43 is not commensurate in scope with the body of the claim in that it can not be determined nor has it been claimed what constitutes a 'short cavity' claim 43 is indefinite and incomplete, accordingly applicant is required to : (a) cancel the claim or (b) amend the preamble to make it commensurate in scope with the body of the claim.

Claim 5 contains the trademark/trade name *invar*. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe a support and, accordingly, the identification/description is indefinite.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Govorkov (6,219,368) .

Govorkov ('368) discloses : a gas discharge laser having a pair of elongated electrodes with a discharge area between the electrodes, a mirror located near one end of the discharge area and an output coupler located from the mirror near another end of the discharge area at a distance of 0.5 meter (see fig.2). Given the structure of the reference

It is noted that there is nothing in applicants disclosure which indicates that: (a) the cavity being less than 30 cm or (b) the reflector having a reflectivity of greater than about 97% are critical to novelty or that these features produce some new or unexpected result, thus it must be concluded that these design modifications are within the purview of one of ordinary skill in the art. Given the structure of the reference it would be obvious that one of ordinary skill in the art desiring a short cavity with one of the reflectors having a reflectivity of greater than 97% that: (a) one would be motivated to incorporate such a reflector of greater than 97% into the device of Govorkov ('368) since such reflectors are notorious in the art, and (b) one would further be motivated to reduce the size of the 50 cm cavity to one less than 30 cm if desired due to any spatial requirements of the device and to dispose such a device into the laser of Govorkov ('368) depending upon the desired result or intended use. Further given the fact that the reflectors of the reference are coupled to bellows, it is obvious that either of the reflectors can be affixedly adjusted thereby allowing the artisan to optimize the performance of the laser. Claim 42 is obvious.

Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Govorkov (6,219,368) .

Govorkov ('368) discloses : a short cavity (50 cm) gas discharge laser having a pair of elongated electrodes with a discharge area between the electrodes, a mirror adjustably connected to a bellows support structure and is inherently

isolated from longitudinal expansion of the laser enclosure tube, and located near one end of the discharge area and an output coupler positioned opposite the mirror and flexibly sealed via a bellows to the enclosure tube , the output coupler being positionally adjusted relative to the mirror (see fig.2). Given the structure of the reference it would be obvious that by adjusting the output coupler relative to the mirror the performance of the laser can b optimized . Claim 43 is obvious.

Zeller (6,473,445) is cited for its teaching of a gas laser having plural co-axial electrodes.

Zhang et al (2003/0061045) is cited for its teaching of a portable low-power gas discharge laser.

Govorkov et al (2002/0041641) is cited for its teaching of a beam delivery system for a molecular fluorine laser. is cited for its teaching of a

Schlie et al (5,369,660) is cited for its teaching of an atomic iodine laser having bellows.

Byrne et al (3,605,038) is cited for its teaching of a gas laser which includes vibrational hydrogen.

Buchwald et al (4,318,057) is cited for its teaching of an optically pimped ammonia laser with bellows.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leon Scott, Jr. whose telephone number is 703-308-4884. The examiner can normally be reached on Monday - Friday, 6:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul P. Ip can be reached on (703)308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7721 for regular communications and 703-308-2864 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-3431.



Leon Scott, Jr.
Primary Examiner
Leon Scott, Jr.
Primary Examiner
Art Unit 2828

lsjr
January 12, 2004